

WHAT IS CLAIMED IS:

1 *sub* 1. A recombinantly produced L1 major capsid protein, or antigenic
2 *D* fragment thereof, wherein said protein is capable of *substantially* reproducing the antigenicity
3 of intact papillomavirus virions.

1 2. The protein of claim 1, wherein said protein is produced in a
2 baculovirus expression system.

1 3. The protein of claim 1, wherein said protein is produced in cos cells.

1 *sub* 4. A vector comprising the protein of claim 1.

1 5. The vector of claim 4, wherein said vector is pSVL.

1 6. The vector of claim 4, wherein said vector is a baculovirus vector.

1 7. A host comprising the vector of claim 4.

1 8. A host comprising the vector of claim 5.

1 9. A host comprising the vector of claim 6.

1 10. The protein of claim 1, wherein said protein is L1 protein of a
2 human papillomavirus selected from the group consisting of HPV 1, 2, 3a, 4,
3 5, 6b, 7, 8, 9, 10, 11a, 12, 13, 16, and 18.

1 11. The protein of claim 10, wherein said HPV is 16 or 18.

Sub
D

B

1 12. A vaccine for the prevention of papillomavirus infection, said
2 vaccine comprising at least one PV type of recombinantly produced L1 protein,
3 or antigenic fragment thereof, which is capable of ^{substantially} reproducing the antigenicity
4 of intact papillomavirus virions.

1 13. The vaccine of claim 12, further comprising an immunogenic
2 carrier.

1 14. The vaccine of claim 13, wherein said carrier is bovine serum
2 albumin or keyhole limpet hemocyanin.

1 15. The vaccine of claim 12, wherein said vaccine comprises L1
2 protein of HPV 16.

1 16. The vaccine of claim 12, wherein said vaccine comprises L1
2 protein of HPV 18.

1 17. The vaccine of claim 12, wherein said vaccine comprises L1
2 protein of HPV 16 and HPV 18.

1 18. The vaccine of claim 12, wherein said PV is selected from HPV
2 1, 2, 3a, 4, 5, 6b, 7, 8, 9, 10, 11a, 12, 13, 16 and 18.

1 19. A method for protecting an animal against a papillomavirus
2 infection, said method comprising
3 administering a therapeutically effective amount of a vaccine,
4 wherein said vaccine comprises at least one PV type of recombinantly produced
5 L1 protein, or antigenic fragments thereof, which is capable of ^{substantially} reproducing the
6 antigenicity of intact papillomavirus virions.

1 20. ~~The method of claim 19, wherein said animal is a human.~~

1 21. The method of claim ¹⁹~~20~~, wherein said PV is selected from HPV
2 1, 2, 3a, 4, 5, 6b, 7, 8, 9, 10, 11a, 12, 13, 16 and 18.

1 22. The method of claim 21, wherein said HPV is at least one of
2 HPV 16 and 18.

1 23. The method of claim 21, wherein said HPV is at least one of
2 HPV 3a and 10.

1 24. The method of claim 21, wherein said HPV is at least one of
2 HPVs 3a, 5, 8, 9, 10 and 12.

B 1 25. The method of claim 21, wherein said HPV is at least one of ^{HPVs}₁,
2 2, 4 and 7.

B 1 26. The method of claim 21, wherein said HPV is at least one of ^{HPVs}_{1, 6b},
2 11a, 13 and 16.

1 27. A pharmaceutical composition for treating papillomavirus
2 infection said composition comprising
3 a therapeutic amount of an antibody raised against a recombinantly
4 produced L1 protein, or antigenic fragments thereof, capable of reproducing the
5 antigenicity of intact papillomavirus virions, in a pharmaceutically acceptable
6 carrier, wherein said antibody is linked to a drug therapy.

1 28. The pharmaceutical composition of claim 27, wherein said
2 antibody is a monoclonal antibody.

1 29. The pharmaceutical composition of claim 28, wherein said
2 monoclonal antibody is linked to an antiviral agent.

1 30. A method for treating a papillomavirus infection in an animal,
2 said method comprising
administering a therapeutically effective amount of the
pharmaceutical composition of claim 27.

1 31. The method of claim 30, wherein said animal is a human.

1 32. The method of claim 31, wherein said PV is selected from HPV
2 1, 2, 3a, 4, 5, 6b, 7, 8, 9, 10, 11a, 12, 13, 16 and 18.

1 33. The method of claim 32, wherein said HPV is at least one of
2 HPV 16 and 18,

1 34. The method of claim 32, wherein said HPV is at least one of
2 HPV 3a and 10.

1 35. The method of claim 32, wherein said HPV is at least one of
2 HPVs 3a, 5, 8, 9, 10 and 12.

1 36. The method of claim 32, wherein said HPV is at least one of 1,
2 2, 4 and 7.

1 37. The method of claim 32, wherein said HPV is at least one of 6b,
2 11a, 13 and 16.

1 38. An antibody capable of protecting against or treating a
2 papillomavirus infection wherein said antibody is raised against a recombinantly
3 produced L1 protein, or antigenic fragments thereof, capable of reproducing the
4 antigenicity of intact papillomavirus virions.

1 39. The antibody of claim 38, wherein said antibody is a monoclonal
2 antibody.

1 40. The antibody of claim 39, wherein said antibody is linked to an
2 antiviral agent.

*add
a2*

*add
B3*

*add
H1*

*add
C1*